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CHAPTER 21

# Grounded theory

## Overview

- Grounded theory basically involves a number of techniques which enable researchers to effectively analyse 'rich' (detailed) qualitative data effectively.
- It reverses the classic hypothesis-testing approach to theory development (favoured by some quantitative researchers) by defining data collection as the primary stage and requiring that theory is closely linked to the entirety of the data.
- The researcher keeps close to the data when developing theoretical analyses – in this way the analysis is 'grounded' in the data rather than being based on speculative theory which is then tested using hypotheses derived from the theory.
- It employs a constant process of comparison back and forwards between the different aspects of the analysis and also the data.
- Grounded theory does not mean that there are theoretical concepts just waiting in the data to be discovered. It means that the theory is anchored in the data.
- In grounded theory, categories are developed and refined by the researcher in order to explain whatever the researcher regards as the significant features of the data.

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## 21.1 Introduction

Sometimes qualitative data analysis is regarded as being an easy route to doing research. After all, it does not involve writing questionnaire items, planning experimental designs or even doing statistics. All of these tasks are difficult and, if they can be avoided, are best avoided. Or so the argument goes. Superficially, qualitative data analysis does seem to avoid most of the problems of quantification and statistical analysis. Carry out an unstructured interview or conduct a focus group or get a politician's speech off the Internet or something of the sort. Record it using an audio-recorder or video-recorder, or just use the written text grabbed from the World Wide Web. Sounds like a piece of cake. You are probably familiar with the caricature of quantitative researchers as boffins in white coats in laboratories. The qualitative researcher may similarly be caricatured. The qualitative researcher is more like a manic newspaper reporter or television reporter who asks a few questions or takes a bit of video and then writes an article about it.

What is the difference between the qualitative researcher and the TV reporter with the audio-recorder or camera crew? The answer to this question will take most of this chapter.

We can begin with one of the most important and seminal publications in qualitative research. The book, *Discovery of Grounded Theory* (Glaser and Strauss, 1967), is regarded as a classic and remains a major source on the topic of grounded theory despite numerous developments since then. Historically, Glaser and Strauss's approach was as much a reaction to the dominant sociology of the time as it was radically innovative. Basically, the book takes objection to the largely abstract sociological theory of the time which seemed divorced from any social or empirical reality. Indeed, empirical research was as atheoretical as the theoretical research was unempirical in sociology at the time. In its place was offered a new, data-based method of theory development. Grounded theory reversed many of the axioms of conventional research in an attempt to systematise many aspects of qualitative research. As such, it should be of interest to quantitative researchers since it highlights the characteristics of their methods.

However, many readers of this chapter will not yet have read any research that involves the use of grounded theory. So what are the characteristics of a grounded theory analysis? Ultimately the aim is to produce a set of categories into which the data fit closely and which amounts to a theoretical description of the data. Since the data are almost certain to be textual or spoken language the major features of most grounded theory analyses are fairly similar. A word of warning: to carry out a grounded theory analysis is a somewhat exacting task. Sometimes authors claim to have used grounded theory though perusal of their work reveals no signs of the rigours of the method. Sometimes the categories developed fit the data because they are so broad that anything in the data is bound to fit into one or other of the coding categories. Like all forms of research, there are excellent grounded theory analyses, but also inadequate or mundane ones.

Like properly done qualitative data analyses in general, grounded theory approaches are held to be time-consuming, arguably because of the need for great familiarity with the data but also because the process of analysis can be quite exacting. Grounded theory employs a variety of techniques designed to ensure that researchers enter into the required intimate contact with their data as well as bringing into juxtaposition different aspects of the data. The approach has a lot of aficionados across the wide cross-section of qualitative research – though its use is less than universal.

Just to stress, grounded theory methods result in categories which encompass the data (text or speech almost invariably) as completely and unproblematically as the researcher can manage. In this context, theory and effective categorisation are virtually synonymous. This causes some confusion among those better versed in quantitative methods who tend to assume that theory means an elaborate conjectural system from which specific

hypotheses are derived for testing. That is not what grounded theory provides – the categorisation system is basically the theory though the method does involve attempts to generalise the theory beyond the immediate data. Furthermore, researchers seeking a theory that yields precise predictions will be disappointed. While grounded theory may generalise to new sets of data, it is normally *in*capable of making predictions of a more precise sort. Charmaz (2000) explains:

> . . . grounded theory methods consist of systematic inductive guidelines for collecting and analyzing data to build middle-range theoretical frameworks that explain the collected data. Throughout the research process, grounded theorists develop analytic interpretations of their data to focus further data collection, which they use in turn to inform and refine their developing theoretical analyses.
>
> (p. 509)

Several elements of this description of grounded theory warrant highlighting:

- Grounded theory consists of *guidelines* for conducting data collection, data analysis and theory building, which may lead to research which is closely integrated to social reality as represented in the data.
- Grounded theory is *systematic*. In other words, the analysis of data to generate theory is not dependent on a stroke of genius or divine inspiration, but on perspiration and application of general principles or methods.
- Grounded theory involves *inductive* guidelines rather than deductive processes. This is very different from what is often regarded as conventional theory building (sometimes described as the 'hypothetico-deductive method'). In the hypothetico-deductive method, theory is developed from which hypotheses are derived. In turn, these hypotheses may be put to an empirical test. Research is important because it allows researchers to test these hypotheses and, consequently, the theory. The hypothetico-deductive method characterised psychology for much of its modern history. Without the link between theory building and hypothesis testing, quantitative research in psychology probably deserves the epithet of 'empiricism gone mad'. Particularly good illustrative examples of the hypothetico-deductive approach are to be found in the writings of psychologists such as Hans Eysenck (for example, Eysenck, 1980). However, grounded theory, itself, was not really a reaction against the hypothetico-deductive method but one against overly abstracted and untestable social theory.
- Grounded theory requires that theory should develop out of an understanding of the complexity of the subject matter. Theories (that is, coding schemes) knit the complexity of the data into a coherent whole. Primarily, such theories may be tested effectively only in terms of the fit between the categories and the data, and by applying the categories to new data. In many ways this contrasts markedly with mainstream quantitative psychology where there is no requirement that the analysis fits all of the data closely – merely that there are statistically significant trends, irrespective of magnitude, which confirm the hypothesis derived from the theory. The unfitting data are regarded as measurement error rather than a reason to explore the data further in order to produce a better analysis, as it may be in qualitative research.
- The theory-building process is a continuous one rather than a sequence of critical tests of the theory through testing hypotheses. In many ways, it is impossible to separate the different phases of the research into discrete components such as theory development, hypothesis testing, followed by refining the theory. The data collection phase, the transcription phase and the analysis phase all share the common intent of building theory by matching the analysis closely to the complexity of the topic of interest.

## 21.2 Development of grounded theory

Grounded theory is usually described as being a reaction against the dominant sociology of the twentieth century, specifically the Chicago School of Sociology. Some of the founders of this school specifically argued that human communities were made up of sub-populations, each of which operated almost on a natural science model – they were like ecological populations. For example, sub-populations showed a pattern whereby they began to invade a territory, eventually reaching dominance, and finally receding as another sub-population became dominant. This was used to explain population changes in major and developing cities such as Chicago. Large-scale social processes and not the experiences of individuals came to be the subject of study. The characteristics which are attributed to the Chicago School are redolent of a lot of psychology from the same period. In particular, the Chicago School sought to develop exact and standard measuring instruments to measure a small number of key variables that were readily quantified. In sociology, research in natural contexts began to be unimportant in the first half of twentieth century – the corresponding change in psychology was the increased importance of the psychological laboratory as a research base. In sociology, researchers undertook field research mainly in order to develop their measuring instruments. Once developed, they became the focus of interest themselves. So social processes are ignored in favour of broad measures such as social class and alienation, which are abstractions. The theorist and the researcher were often different people, so much so that much research became alienated from theory, that is, atheoretical (Charmaz, 1995).

Grounded theory methodology basically mirror-imaged or reversed features of the dominant sociology of the 1960s in a number of ways:

- Qualitative research came to be seen as a legitimate domain in its own right. It was not a preliminary or preparatory stage for refining one's research instruments prior to quantitative research.
- The division between research and theory was undermined by requiring that theory comes after or as part of the data collection and is tied to the data collected. Furthermore, data collection and their analysis were reconstrued as being virtually inseparable. That is, analysis of the data was encouraged early in the collection of data and this early analysis could be used to guide the later collection of data.

In order to achieve these ends, grounded theory had to demonstrate that quantitative research could be made rigorous, systematic and structured. The idea that quantitative data analysis is no more than a few superficial impressions of the researcher was no part of grounded theory. Equally, case studies are considered in themselves *not* to achieve the full potential of qualitative research.

Despite being the mirror image of mainstream research, grounded theory analysis does not share all of the features of other qualitative methods such as discourse analysis and conversation analysis. In particular, some users of grounded theory reject *realism* (the idea that out there somewhere is a social reality which researchers will eventually uncover) whereas others accept it. Similarly, some grounded theorists aim for objective measures and theory development that does not depend on the researcher's subjectivity. Others regard this as a futile and inappropriate aim. See Figure 21.1 for some of the key aspects of the development of grounded theory.

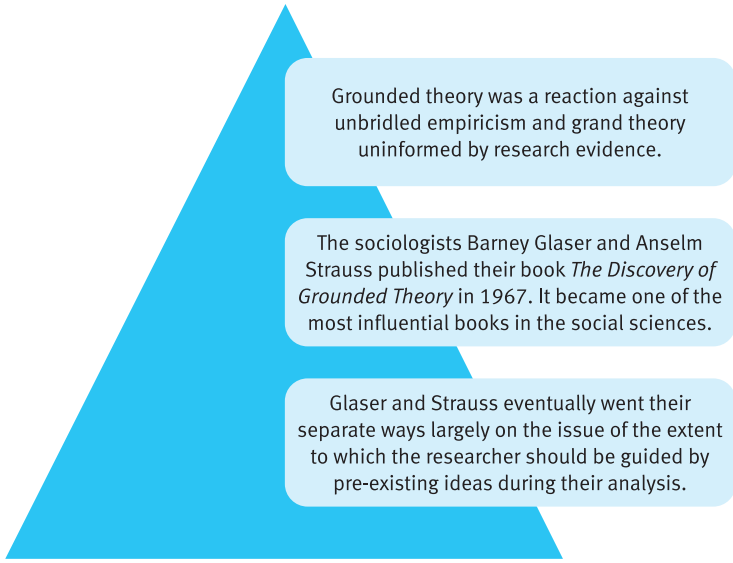
Grounded theory was a reaction against unbridled empiricism and grand theory uninformed by research evidence.
The sociologists Barney Glaser and Anselm Strauss published their book *The Discovery of Grounded Theory* in 1967. It became one of the most influential books in the social sciences.
Glaser and Strauss eventually went their separate ways largely on the issue of the extent to which the researcher should be guided by pre-existing ideas during their analysis.

**FIGURE 21.1** The roots of grounded theory

## 21.3 Data in grounded theory

Grounded theory is not primarily a means of collecting data but the means of data analysis. However, grounded theory does have things to say about the way in which data should be collected in a manner guided by the needs of the developing grounded theory. Grounded theory does not require any particular type of data although some types of data are better for it than others. There is no requirement that the data are qualitative, especially in the early formulations of grounded theory. So, for example, grounded theory can be applied to interviews, biographical data, media content, observations, conversations and so forth or anything else which can usefully inform the developing theory. All of these sources potentially may be introduced into any study. The key thing is, of course, that the primary data should be as richly detailed as possible, that is, not simple or simplified. Charmaz (1995, p. 33) suggests that richly detailed data involve 'full' or 'thick' written descriptions. So, by this criterion, much of the data collected by quantitative researchers in the quantitative approach would be unsuitable as the primary data for analysis. There is little that a grounded theory researcher could do with answers to a multiple-choice questionnaire or personality scale. Yes–no and similar response formats do not provide detailed data – though the findings of such studies may contribute more generally to theory building in grounded theory. The data for grounded theory analysis mostly consist of words, but this is typical of much data in psychology and related disciplines. As such, usually data are initially transcribed using a transcription system though normally Jefferson's elaborate method (Chapter 19) would be unnecessary. Some lessons from grounded theory could be useful to all sorts of researchers. In particular, the need for richness of data, knowing one's data intimately and developing theory closely in line with the data would benefit a great deal of research.

# 21.4 How to do grounded theory analysis

Potter (1998) likens grounded theory to a sophisticated filing system. This filing system does not merely put things under headings, there is also cross-referencing to a range of other categories. It is a bit like a library book that may be classified as a biography, but it may also be a political book. Keep this analogy in mind as otherwise the temptation is to believe that the data are filed under only one category in grounded theory analysis. It is notorious that Glaser and Strauss did not see eye-to-eye academically speaking later in their careers so rather different versions of grounded theory evolved. The main difference between them was in the extent to which the researcher should come to the data with ideas and thoughts already developed or, as far as possible, with no preconceptions about the data. There seems to be a general acceptance that grounded theory analysis has a number of key components and the following summarises some of the important analytic principles that broadly can be described as grounded theory. These are outlined below.

## Comparison

Crucially, grounded theory development involves constant comparisons at all stages of the data collection and analysis process – without comparing categories with each other and with the data, categories cannot evolve and become more refined:

- People may be compared in terms of what they have said or done or how they have accounted for their actions or events, for example.
- Comparisons are made of what a person does or says in one context with what they do and say in another context.
- Comparisons are made of what someone has said or done at a particular time with a similar situation at a different time.
- Comparisons of the data with the category which the researcher suggests may account for the data.
- Comparisons are made of categories used in the analysis with other categories used in the analysis.

So, for example, it is a common criticism of quantitative research that the researcher forces observations into ill-fitting categories for the purpose of analysis; in grounded theory the categories are changed and adjusted to fit the data better. This is often referred to as the method of *constant comparisons*. Much of the following is based on Charmaz's (1995, 2000) recommendations about how to proceed.

## Coding/naming

Grounded theory principles require that the researcher repeatedly examines the data closely. The lines of data will be numbered at some stage to aid comparison and reference. In the initial stage of the analysis, the day-to-day work involves coding or describing the data line-by-line. It is as straightforward as that – and as difficult. (Actually, there is no requirement that a line be the unit of analysis and a researcher may choose to operate at the level of the sentence or the paragraph, for example.) The line is examined and a description (it could be more than one) is provided by the researcher to describe what is happening in that line or what is 'represented' by that line. In other words, a name is being given to each line of data. These names or codings should be generated out of what

**Table 21.1** A modified extract of grounded theory coding based on Charmaz (1995, p. 39)

| Interview transcript | Coding by researcher |
|---|---|
| If you have lupus, I mean one day it's my liver | Shifting symptoms |
| One day it's in my joints; one day it's in my head, and | Inconsistent days |
| It's like people really think you're a hypochondriac if you keep | Interpreting images of self |
| . . . It's like you don't want to say anything because people are going to start thinking | Avoiding disclosure |

Source: Charmaz (1995)

is in that particular line of data. In many ways, describing this as coding is a little misleading, because it implies a pre-existing system, which is not the case. Others describe the process in slightly different terms. For example, Potter (1997) describes the process as being one of giving labels to the key concepts that appear in the line or paragraph.

The point of the coding is that it keeps the researcher's feet firmly in the grounds of the data. Without coding, the researcher may be tempted to over-interpret the data by inappropriately attributing 'motives, fears or unresolved personal issues' (Charmaz, 1995, p. 37) to the participants. At the end of this stage, we are left with numerous codings or descriptions of the contents of many lines of text.

It is difficult to give a brief representative extract of grounded theory style codings. Table 21.1 reproduces a part of such codings from Charmaz (1995) which illustrates aspects of the process reasonably well. Take care though since Table 21.1 contains a very short extract from just one out of nearly two hundred interviews conducted by her. It can be seen that the codings/categories are fairly close to the data in this example. It should be noted that hers are not the only codings which would work with the data.

## Categorisation

Quite clearly, the analyst has to try to organise these codings. Remember that codings are part of the analysis process and the first tentative steps in developing theory. These are the smallest formal units in the grounded theory analysis. While they may describe the data more-or-less well, by organising them we may increase the likelihood that we will be able to effectively revise them. This is a sort of reverse filtering process: we are starting with the smallest units of analysis and working back to the larger theoretical descriptions. So the next stage is to build the codings or namings of lines of data into categories. This is a basic strategy in many sorts of research. In quantitative research, there are statistical methods which are commonly used in categorising variables into groupings of variables (for example, factor analysis and cluster analysis). These statistical methods are not generally available to the grounded theorist, so the categorisation process relies on other methods. Once again, the process of constant comparison is crucial, of course. The analyst essentially has to compare as many of the codings with the other codings as possible. That is, is the coding for line 62 really the same as that for line 30 since both lines are described in very similar words? Is it possible to justify coding lines 88 and 109 in identical fashion since when these data lines are examined they appear to be very different?

The constant comparing goes beyond this. For example, does there seem to be a different pattern of codings for Mr X than for Mrs Y? That is, does the way that they talk about things seem to be different? We might not be surprised to find different patterns for Mr X and Mrs Y when we know that this is a couple attending relationship counselling or that one is the boss of a company and the other an employee. The data from a person

at a particular point in time or in a particular context may be compared with data from the same person at a later point in time or in different contexts.

It need not stop there. Since the process is one of generating categories for the codings of the data which fit the data well and are coherent, one must also compare the categories with each other as they emerge or are developed. After all, it may become evident, for example, that two of the categories cannot be differentiated – or you may have given identical titles to categories which actually are radically different. The process of categorisation may be facilitated by putting the data or codings or both onto index cards which can be physically moved around on a desk or table in order to place similar items close together and dissimilar items further apart. In this way, relationships can begin to be identified in a more active visual way.

## Memo writing

The stages in grounded theory analysis are not as distinct as they first appear. The process of analysis is not sequential, although explaining grounded theory analysis makes it appear so. It is a back-and-forward process. Memo writing describes the aspect of the research in which the data are explored rather than described and categorised. The memo may be just as one imagines – a notebook – in which the researcher notes suggestions as to how the categories may be linked together in the sense that they have relationships and interdependencies. But the memo does not have to be a purely textual thing. A diagram – perhaps a flow diagram – could be used in which the key concepts are placed in boxes and the links between them identified by annotated arrows. What do we mean by relationships and interdependencies? Imagine the case of male and female. They are conceptually distinct categories but they have interdependencies and relationships. One cannot understand the concept of male without the concept of female.

The memo should not be totally separated from the data. Within the memo one should include the most crucial and significant examples from the data which are indicative and typical of the more general examples. So the memo should be replete with illustrative instances as well as potentially ill-fitting or problematic instances of ideas, conceptualisations and relationships that are under development as part of the eventual grounded theory:

> If you are at a loss about what to write about, look for the codes that you have used repeatedly in your data collection. Then start elaborating on these codes. Keep collecting data, keep coding and keep refining your ideas through writing more and further developed memos.
>
> (Charmaz, 1995, p. 43)

In a sense, this advice should not be necessary with grounded theory since the processes of data collection, coding and categorisation of the codes are designed to make the researcher so familiar with their data that it is very obvious what the frequently occurring codings are. However, it is inevitable that those unaccustomed to qualitative analysis will have writing and thinking blocks much the same as a quantitative researcher may have problems writing questionnaire items or formulating hypotheses.

Sometimes the memo is regarded as an intermediary step between the data and the final written report. As ever in grounded theory, though, in practice the distinction between the different stages is not rigid. Often the advice is to start memo writing just as soon as anything strikes one as interesting in the data, the coding or categorisation. The sooner the better would seem to be the general consensus. This is very different from the approach taken by quantitative researchers. Also bear in mind that the process of theory development in grounded theory is not conventional in that the use of a

small number of parsimonious concepts is not a major aim. (This is essentially Occam's razor which is the logical principle that no more than the minimum number of concepts or assumptions is necessary. This is also referred to as the principle of parsimony.) Strauss and Corbin (1999) write of conceptual density which they describe as a richness of concept development and relationship identification. This is clearly intended to be very different from reducing the analysis to the very minimum number of concepts as is characteristic of much quantitative research.

### Theoretical sampling

Theoretical sampling is about how to validate the ideas developed within the memo. If the ideas in the memo have validity then they should apply to some samples of data but not to others. The task of the researcher is partly to suggest which samples the categories apply to and which they should not apply to. This will help the researcher identify new sources of data which may be used to validate the analysis to that point. As a consequence of the analysis of such additional data, subsequent memo writing may be more closely grounded in the data which it is intended to explain.

### Literature review

In conventional methodological terms, the literature review is largely carried out in advance of planning the detailed research. That is, the new research builds on the accumulated previous knowledge. In grounded theory, the literature review should be carried out after the memo-writing process is over – signed, sealed and delivered. In this way, the grounded theory has its origins in the data collected *not* the previous research and theoretical studies. So why bother with the literature review? The best answer is that the literature review should be seen as part of the process of assessing the adequacy of the grounded theory analysis. If the new analysis fails to deal adequately with the older research then a reformulation may be necessary. On the other hand, it is feasible that the new analysis helps integrate past grounded theory analyses. In some respects this can be regarded as an extension of the grounded theory to other domains of applicability.

That is what some grounded theorists claim. Strauss and Corbin (1999) add that the grounded theory methodology may begin in existing grounded theory so long as they 'seem appropriate to the area of investigation' and then these grounded theories 'may be elaborated and modified as incoming data are meticulously played against them' (pp. 72–3). An overall picture of the stages of grounded theory are shown in Figure 21.2. This includes an additional stages of theory development which do not characterise all grounded theory studies in practice.

## 21.5 Computer grounded theory analysis

A number of commercially available grounded theory analysis programs are available. Generically they are known as CAQDAS (Computer-Assisted Qualitative Data Analysis Software). NUD*IST was the market leader but it has been replaced by NVivo, which is very similar, and there are others. These programs may help with the following aspects of a grounded theory analysis:

- There is a lot of paperwork with grounded theory analysis. Line-numbered transcripts are produced, coding categories are developed, and there is much copying and pasting of parts of the analysis in order to finely tune the categories to the data. There is

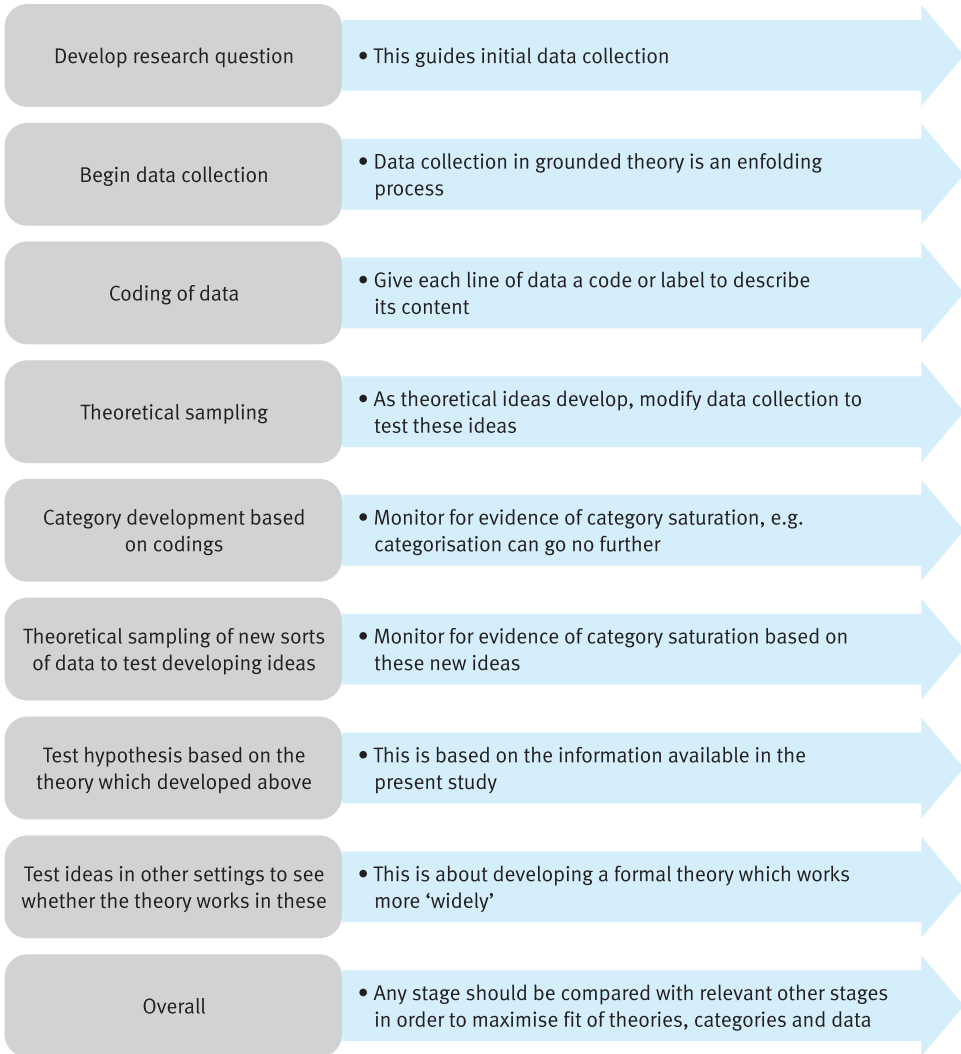
Develop research question
• This guides initial data collection
Begin data collection
• Data collection in grounded theory is an enfolding process
Coding of data
• Give each line of data a code or label to describe its content
Theoretical sampling
• As theoretical ideas develop, modify data collection to test these ideas
Category development based on codings
• Monitor for evidence of category saturation, e.g. categorisation can go no further
Theoretical sampling of new sorts of data to test developing ideas
• Monitor for evidence of category saturation based on these new ideas
Test hypothesis based on the theory which developed above
• This is based on the information available in the present study
Test ideas in other settings to see whether the theory works in these
• This is about developing a formal theory which works more 'widely'
Overall
• Any stage should be compared with relevant other stages in order to maximise fit of theories, categories and data

**FIGURE 21.2** Some of the analytic stages in grounded theory

almost inevitably a large amount of textual material to deal with – a single focus group, for example, might generate 10 or 20 transcribed pages. Computers, as everyone knows, are excellent for cutting down on paper when drafting and shifting text around. That is, the computer may act as a sort of electronic office for grounded analyses.

- One key method in grounded theory is searching for linkages between different aspects of the data. A computer program is eminently suitable for making, maintaining and changing linkages between parts of a document and between different documents.
- Coding categories are developed but frequently need regular change, refinement and redefinition in order for them to fit the data better and further data that may be introduced perhaps to test the categories. Using computer programs, it is possible to recode the data more quickly, combine categories and the like.

Box 21.1 discusses computer-based support for grounded theory analysis.

Box 21.1 Practical Advice

# Computers and qualitative data analysis: Computer-Assisted Qualitative Data Analysis Software (CAQDAS)

Using computer programs for the analysis of qualitative data is something of a mixed blessing for students new to this form of analysis. The major drawback is the investment of time needed to learn the software. This is made more of a problem because no qualitative analysis program does all of the tasks that a qualitative analyst might require. Thus it is not like doing a quantitative analysis on a computer program such as SPSS Statistics where you can do something useful with just a few minutes of training or just by following a text. Furthermore, qualitative analysis software is much more of a tool to help the researcher whereas SPSS Statistics, certainly for simple analyses, does virtually all of the analysis. So think carefully before seeking computer programs to help with your qualitative analysis, especially if time is short, as it usually is for student projects. There is little or nothing that can as yet be done by computers which cannot be done by a researcher using more mundane resources such as scissors, glue, index cards and the like. The only major drawback to such basic methods is that they become unwieldy with very substantial amounts of data. In these circumstances, a computer may be a major boon in that it keeps everything neat and tidy and much more readily accessible on future occasions.

There are two main stages for which computer programs may prove helpful: data entry and data analysis.

## Data entry

All students will have some word-processing skills which may prove helpful for a qualitative analysis. The first major task after data have been collected is to transcribe it. This is probably best done by a word processing program such as Microsoft's Word which is by far the most commonly used of all such programs. Not only is such a program the best way of getting a legible transcript of the data but it is also useful as a resource of text to be used in illustrating aspects of the analysis in the final research report. Word-processing programs can be used for different sorts of transcription including Jefferson transcription (see Chapter 19) which utilises keyboard symbols universally available. Of course, the other big advantage of word-processing programs is that they allow for easy text manipulation. For example, one can usually search for (find) strings of text quickly. More importantly, perhaps, one can copy-and-paste any amount of text into new locations or folders. In other words, key bits of text can be brought together to aid the analysis process simply by having the key aspects of the text next to each other.

Computers can aid data entry in another way. If the data to be entered are already in text form (e.g. magazine articles or newspaper reports) then it may be possible to scan the text directly into the computer using programs such as TextBridge. Alternatively, some may find it helpful to use voice recognition software to dictate such text into a computer as an alternative to typing. Of course, such programs are still error-prone but then so is transcribing words from the recording by hand. All transcripts require checking for accuracy no matter how they are produced.

In the case of discourse analysis or conversation analysis (see Chapters 22 and 23) features of the data such as pauses, voice inflections and so forth need to be recorded. So editing software such as CoolEdit (now known as Adobe Audition) are useful for these specialised transcription purposes. This program, for example, has the big advantage that it shows features of the sound in a sort of continuous graphical form which allows for the careful measurement of times of silences and so forth. There is a free-to-download computer program which helps one transcribe sound files. It is known as SoundScriber and can be obtained at http://www-personal.umich.edu/~ebreck/sscriber.html.

The downside is that by saving the researcher time, the computer program reduces their familiarity with their data. This undermines one of the main strategies of qualitative analysis which is to encourage the researcher to repeatedly work through the analysis in ways which encourage greater familiarity.

## Data analysis

There are many different forms of analysis of qualitative data so no single program is available to cope with all of these. For example, some analyses simply involve counts of how frequently particular words or phrases (or types

of words or phrases) occur in the data or how commonly they occur in close physical proximity. Such an analysis is not typical of what is done in psychology and, of course, it is really a type of quantitative analysis of qualitative data rather than a qualitative data analysis as such. The most common forms of qualitative analysis tend to involve the researcher labelling the textual data in some way (coding) and then linking the codings together to form broader categories which constitute the bedrock of the analysis. The most famous of the computer programs helping the researcher handle grounded theory analyses is NUD*IST, which was developed in the 1980s, and NVivo, which was developed a decade or so later but is closely related to NUD*IST. The researcher transcribes their data (usually these will be interviews) and enters the transcription into one of these programs usually using RTF (rich text format) files which Word can produce. The programs then allow you to take the text and code or label small pieces of it. Once this is complete the codes or labels can be grouped into categories (analogous to themes in thematic analysis – Chapter 20). The software company which owns NVivo suggests that it is useful for researchers to deal with rich-text data at a deep level of analysis. They identify some of the qualitative methods discussed in this book as being aided by NVivo such as grounded theory, conversation analysis, discourse analysis and phenomenology. The software package is available in a student version at a moderate price but you may find that a trial download is sufficient for your purposes. This was available at the following address at the time of writing: http://www.qsrinternational.com/products_free-trial-software.aspx.

The system allows the user to go through the data coding the material a small amount at a time (the unit of analysis can be flexible) or one can develop some coding categories in a structured form before beginning to apply them to the data. In NVivo there is the concept of *nodes* which it defines as 'places where you store ideas and categories'. There are two important types of nodes in the program which are worth mentioning here:

- *Free nodes* These can most simply be seen as codings or brief verbal descriptions or distillations of a chunk of text. These are probably best used at the start of the analysis before the researcher has developed clear ideas about the data and the way the analysis is going.
- *Tree nodes* These are much more organised than the free nodes (and may be the consequence of joining together free nodes). They are in the form of a hierarchy with the parent node leading to the children nodes which may lead to the grandchildren nodes. The hierarchy is given a numerical sequence such as 4 2 3 where the parent node is here given the address 4, one of the child nodes is given the address 2 and where the grandchild is given the address 3. Thus 4 2 3 uniquely identifies a particular location within the tree node. So, for example, a researcher may have as the parent node *problems at work*, one of the child nodes may be *interpersonal relationships* (another child node might be *redundancy*, for example), and one of the grandchild nodes might be *sexual harassment*.

These nodes are not fixed until the researcher is finally satisfied but can be changed, merged together or even removed should the researcher see fit. This is the typical process of checking and reviewing that makes qualitative research both flexible and time-consuming.

NVivo has other useful features such as a 'modeller' which allows the researcher to link the ideas/concepts developed in the analysis together using connectors which the researcher labels. There is also a search tool which allows the researcher to isolate text with particular contents or which has been coded in a particular way.

An alternative to NUD*IST/NVivo is to use CDC EZ-Text which is free-to-download at http://www.cdc.gov/hiv/SOFTWARE/ez-text.htm if you want to access a qualitative analysis program without the expense of the commercial alternatives. EZ-Text is available for researchers to create and manage databases for semi-structured qualitative interviews and then analyse the data. The user acts interactively with the computer during the process of developing a list of codes to be applied to the data (i.e. creating a codebook) which can then be used to give specific codes to passages in the material. The researcher can also search the data for passages which meet the researcher's own preset requirements. In many respects, this is similar to NVivo.

There is no quick fix for learning any of these systems. There are training courses for NVivo, for example, lasting several days, which suggests that the systems cannot be mastered quickly.

## Example of a NVivo/NUD*IST analysis

Pitcher and her colleagues (2006) studied sex work by using focus group methodology (see Chapter 18) in which residents in a particular area talked together under the supervision of a facilitator. NUD*IST was used to analyse the data originally. In order to demonstrate NVivo, we have taken a small section of their data and re-analysed it. This is shown in the screenshot (Figure 21.3). Of course, different researchers with different purposes may analyse the same qualitative data very differently. We have done the most basic coding by entering free nodes for the interview

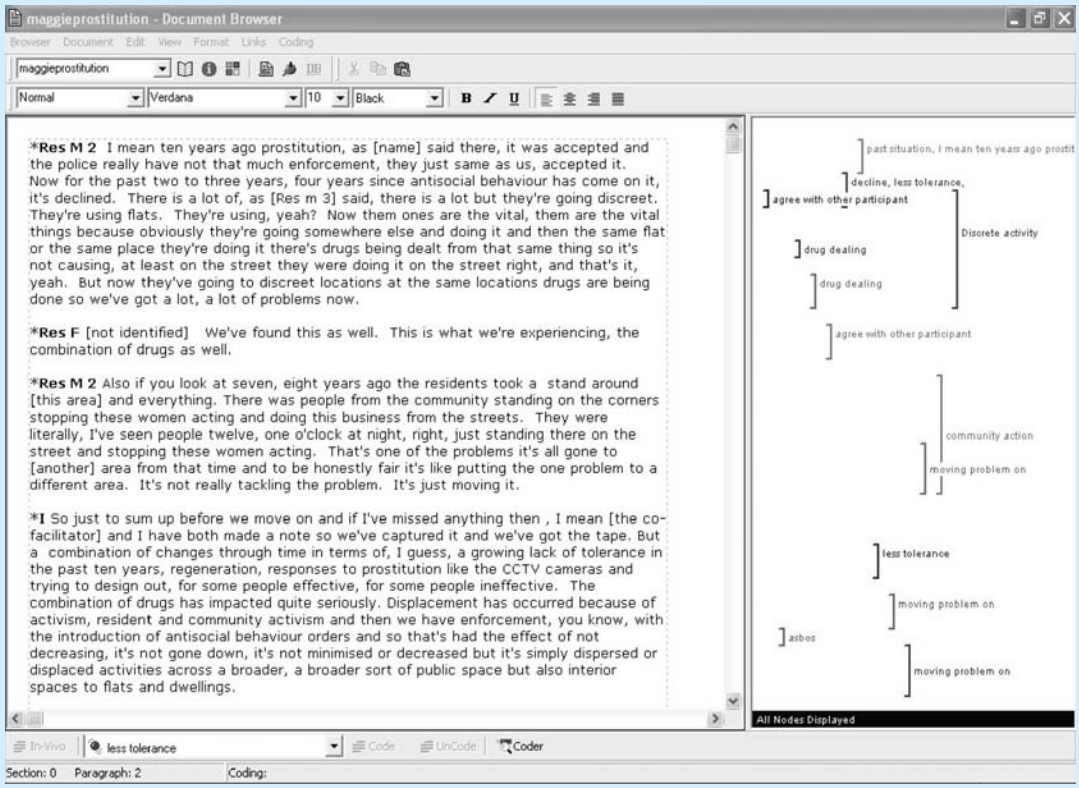
maggieprostitution - Document Browser
Browser Document Edit View Format Links Coding
maggieprostitution
Normal
Verdana
10
Black
*Res M 2 I mean ten years ago prostitution, as [name] said there, it was accepted and the police really have not that much enforcement, they just same as us, accepted it. Now for the past two to three years, four years since antisocial behaviour has come on it, it's declined. There is a lot of, as [Res m 3] said, there is a lot but they're going discreet. They're using flats. They're using, yeah? Now them ones are the vital, them are the vital things because obviously they're going somewhere else and doing it and then the same flat or the same place they're doing it there's drugs being dealt from that same thing so it's not causing, at least on the street they were doing it on the street right, and that's it, yeah. But now they've going to discreet locations at the same locations drugs are being done so we've got a lot, a lot of problems now.
*Res F [not identified] We've found this as well. This is what we're experiencing, the combination of drugs as well.
*Res M 2 Also if you look at seven, eight years ago the residents took a stand around [this area] and everything. There was people from the community standing on the corners stopping these women acting and doing this business from the streets. They were literally, I've seen people twelve, one o'clock at night, right, just standing there on the street and stopping these women acting. That's one of the problems it's all gone to [another] area from that time and to be honestly fair it's like putting the one problem to a different area. It's not really tackling the problem. It's just moving it.
*I So just to sum up before we move on and if I've missed anything then , I mean [the co-facilitator] and I have both made a note so we've captured it and we've got the tape. But a combination of changes through time in terms of, I guess, a growing lack of tolerance in the past ten years, regeneration, responses to prostitution like the CCTV cameras and trying to design out, for some people effective, for some people ineffective. The combination of drugs has impacted quite seriously. Displacement has occurred because of activism, resident and community activism and then we have enforcement, you know, with the introduction of antisocial behaviour orders and so that's had the effect of not decreasing, it's not gone down, it's not minimised or decreased but it's simply dispersed or displaced activities across a broader, a broader sort of public space but also interior spaces to flats and dwellings.
past situation, I mean ten years ago prostit
decline, less tolerance,
agree with other participant
Discrete activity
drug dealing
drug dealing
agree with other participant
community action
moving problem on
less tolerance
moving problem on
asbos
moving problem on
All Nodes Displayed
In-Vivo
less tolerance
Code
UnCode
Coder
Section: 0 Paragraph: 2
Coding:

**FIGURE 21.3** A screenshot of NVivo coding (from QSR International Pty Ltd)

passage. This will give you some idea of how complex even this initial coding can be with NVivo – notice the pane at the side of the screenshot where the sections coded are identified between horizontal square brackets. Also, notice how the sections coded can overlap. It is possible to give several distinct codings or free nodes to the same selection of text. Basically, the researcher highlights a section of text, chooses an existing coding for that section or adds a new coding by typing in the lower box, and then selects the code. Of course, this is just the start since the researcher may wish to revise the codings, put the codings (free nodes) into a tree node structure, identify all of the text with a particular coding and so forth.

*We are grateful to Maggie O'Neil and Jane Pitcher for help with this box.*

## 21.6 Evaluation of grounded theory

Potter (1998) points out that central to its virtues is that grounded theory:

> . . . encourages a slow-motion reading of texts and transcripts that should avoid the common qualitative research trap of trawling a set of transcripts for quotes to illustrate preconceived ideas.
>
> (p. 127)

This is probably as much a weakness as a strength since the size of the task may well defeat the resources of novices and others. Certainly it is not always possible to be convinced that preconceived ideas do not dominate the analysis rather than the data leading the analysis. There are a number of criticisms which seem to apply to grounded theory:

- It encourages a pointless collection of data, that is, virtually anything textual or spoken could be subject to a grounded theory analysis. There are no clear criteria for deciding, in advance, what topics to research on the basis of their theoretical or practical relevance. Indeed, the procedures tend to encourage the delay of theoretical and other considerations until after the research has been initiated.
- Potter (1998) suggests that 'The method is at its best where there is an issue that is tractable from a relatively common sense actor's perspective . . . the theoretical notions developed are close to the everyday notions of the participants' (p. 127). This means that commonsensical explanations are at a premium – explanations which go beyond common sense may be squeezed out. Potter puts it another way elsewhere 'how far is the grounding derived not from theorizing but from reproducing common sense theories as if they were analytic conclusions?' (Potter, 1998, p. 127). This may be fair criticism. The difficulty is that it applies to any form of research which gives voice to its participants. Ultimately, this tendency means that grounded theory may simply codify how ordinary people ordinarily understand the activities in which they engage.
- There is a risk that grounded theory, which is generally founded on admirable ideals, is used to excuse inadequate qualitative analyses. It is a matter of faith that grounded theory will generate anything of significant value, yet at the same time, done properly, a grounded theory analysis may have involved a great deal of labour. Consequently, it is hard to put aside a research endeavour which may have generated little but cost a lot of time and effort. There are similar risks that grounded theory methods will be employed simply because the researcher has failed to focus on appropriate research questions, so leaving themself with few available analysis options. These risks are particularly high for student work.
- Since talk and text are analysed line by line (and these are arbitrarily divided – they are not sentences, for example) the researcher may be encouraged to focus on small units rather than the larger units of conversation as, for example, favoured by discourse analysts (Potter, 1998). Nevertheless, grounded theory is often mentioned by such analysts as part of their strategy or orientation.

So it is likely that grounded theory works best when dealing with issues that are amenable to common-sense insights from participants. Medical illness and interpersonal relationships are such topics where the theoretical ideas that grounded theory may develop are close to the ways in which the participants think about these issues. This may enhance the practicality of grounded theory in terms of policy implementation. The categories used and the theoretical contribution are likely to be in terms which are relatively easy for the practitioner or policymaker to access.

## 21.7 Conclusion

Especially pertinent to psychologists is the question of whether grounded theory is really a sort of Trojan horse which has been cunningly brought into psychology, but is really the enemy of advancement in psychology. Particularly troubling is the following from Strauss and Corbin (1999):

> . . . grounded theory researchers are interested in patterns of action and interaction between and among various types of social units (i.e., 'actors'). So they are not especially interested in creating theory about individual actors as such (unless perhaps they are psychologists or psychiatrists).
>
> (p. 81)

Researchers such as Strauss and Corbin are willing to allow a place for quantitative data in grounded theory. So the question may be one of how closely psychological concepts could ever fit with grounded theory analysis which is much more about the social (interactive) than the psychological.

## Key points

- Grounded theory is an approach to analysing (usually textual) data designed to maximise the fit of emerging theory (categories) to the data and additional data of relevance.
- The aim is to produce 'middle range' theories which are closely fitting qualitative descriptions (categories) rather than, say, cause-and-effect or predictive theories.
- Grounded theory is 'inductive' (that is, does not deduce outcomes from theoretical postulates). It is systematic in that an analysis of some sort will almost always result from adopting the system. It is a continuous process of development of ideas – it does not depend on a critical test as in the case of classic psychological theory.
- Comparison is the key to the approach – all elements of the research and the analysis are constantly compared and contrasted.
- Coding (or naming or describing) is the process by which lines of the data are given a short description (or descriptions) to identify the nature of their content.
- Categorisation is the process by which the codings are amalgamated into categories. The process helps find categories which fit the codings in their entirety, not simply a few pragmatic ideas which only partially represent the codings.
- Memo writing is the process by which the researcher records their ideas about the analysis throughout the research process. The memo may include ideas about categorisation but it may extend to embrace the main themes of the final report.
- Computer programs are available which help the researcher organise the materials for the analysis and effectively alter the codings and categories.
- A grounded theory analysis may be extended to further critical samples of data which should be pertinent to the categories developed in the analysis. This is known as theoretical sampling.
- The theoretical product of grounded theory analysis is not intended to be the same as conventional psychological theorisation and so should not be judged on those terms.

## ACTIVITY

Grounded theory involves the bringing of elements together to try to forge categories which unite them. So choose a favourite poem, song or any textual material, and write each sentence on a separate sheet of paper. Choose two at random. What unites these two sentences? Then choose another sentence. Can this be united with the previous two sentences? Continue the exercise until you cease coming up with new ideas. Then start again.